

polymers such as, for example, polypropylene. This is a remarkable phenomenon as shown below.

The Applicants enclose a Table 1 which comprises examples taken from the Applicants' Specification and provides the content of LCP in the film and the corresponding specific gravity associated with that percentage. The Applicants' also enclose Table 2 which is comprised of examples and comparative examples taken from Hibiya. Table 2 includes the content of polypropylene in the layer of the film and the corresponding specific gravity.

The Applicants have then constructed and enclose Figure 1 which is a graph of the contents of polypropylene or LCP relative to their specific gravities.

The Applicants respectfully submit that Figure 1 shows a remarkable and unexpected result. Figure 1 demonstrates that films containing LCP have a surprisingly low specific gravity compared to films containing other polymers such as polypropylene. What is particularly surprising is the fact that the specific gravity of the film containing LCP is demonstrably lower than a film containing polypropylene given the same content of polypropylene or LCP. This is despite the fact that the specific gravity of LCP is higher than polypropylene. Specifically, the specific gravity of LCP is about 1.35 to 1.4, while the specific gravity of polypropylene is about 0.9.

What becomes apparent from Figure 1 is that the specific gravity of LCP is substantially higher than that of polypropylene yet the resulting films have lower specific gravity irrespective of when the contents of the LCP or polypropylene are similar. The Applicants respectfully submit that this is a clear demonstration of an unexpected result not disclosed, taught or suggested by Hibiya (and/or Perez).

Hibiya discloses that LCP may be used as an immiscible thermoplastic resin. However, Hibiya does not disclose only LCP. A number of other polymers including polypropylene are disclosed as immiscible thermoplastic resins. The attached Tables and Figure demonstrate, however, that there is an unexpected phenomenon occurring with respect to LCP. It is not merely a matter of choosing one of the many polymers disclosed by Hibiya such as a random selection including, for example, polypropylene having a specific gravity which is lower than that of LCP results in films having a specific gravity that is greater than those of LCP. The Applicants respectfully submit that one skilled in the art would not have a reasonable expectation that this would happen. In fact, the Applicants respectfully submit that one skilled in the art would have a reasonable expectation that the results would have been the opposite of what the Applicants surprisingly found.

Moreover, the Applicants respectfully submit that one skilled in the art would not have considered it obvious to employ LCP in an effort to optimize/reduce the specific gravity of film. The Applicants pose the question: Why would it be obvious for one skilled in the art to select LCP which has a relatively high specific gravity in an effort to optimally lower the specific gravity of the resulting film when other polymers disclosed by Hibiya such as polypropylene have a specific gravity that is significantly lower than LCP? The answer is that one skilled in the art would not select LCP. One skilled in the art would tend to select other polymers having lower specific gravities such as polypropylene.

The Applicants respectfully submit that this is a classic instance of the Applicants discovering an unexpected phenomenon as is factually demonstrated by the enclosed tables and the enclosed Figure 1. The Applicants also respectfully submit that Perez does nothing to change the unexpected results over Hibiya. Withdrawal of the rejection is respectfully requested.

Claims 30-32 stand rejected under 35 USC §103 over the further hypothetical combination of Nakatani with Perez and Hibiya. The Applicants respectfully submit, however, that Nakatani does nothing to cure the deficiencies set forth above with respect to Perez and Hibiya. Withdrawal of the rejection is respectfully requested.

Claims 6 and 33-39 stand rejected under 35 USC §103 over the further hypothetical combination of Nakamura with Perez and Hibiya. Again, the Applicants respectfully submit that Nakamura fails to cure the deficiencies set forth above with respect to Perez and Hibiya. Withdrawal of that rejection is also respectfully requested.

In light of the foregoing, the Applicants respectfully submit that the entire Application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,



T. Daniel Christenbury  
Reg. No. 31,750  
Attorney for Applicants

TDC/cs  
(215) 656-3381